

Message

From: Mark Boucher [mboucher@greenleaf-power.com]
Sent: 2/18/2022 2:37:41 PM
To: Chew, Andrew [Chew.Andrew@epa.gov]
CC: Kevin Lawrence [klawrence@greenleaf-power.com]; Lapada, Yveze Nikita [Lapada.YvezeNikita@epa.gov]; Mitchell Martin [mmartin@greenleaf-power.com]
Subject: RE: Mark Boucher's contact info

Good day Andrew,

We reached out to our DAS vendor. He has provided the following DAS equations from the DAHS at Desert View Power. The F Factor which I originally assumed was used in the system (9240 dscf/mmBtu) is actually currently set at 10,000 dscf/mmBtu for dry wood fuel.

We have verified this number within the system.

Please let us know if this is sufficient or if you require any additional information.

Best Regards Mark

Emission Rate lb/mmBtu

To calculate emissions rate in lb/mmBtu from ppmvd.

$$E = C_d \times F_{d,gen} \times K \times MW \times \left(\frac{20.9}{20.9 - O_2 \%} \right)$$

Units: lb/mmBtu

Reference: 40CFR60 Appendix A Method 19, Eq. 19-1
CISCO Formula ID 0050

- E = Emissions expressed as lb/mmBtu
- C_d = Concentration measured, ppmvd
- $F_{d,gen}$ = General Dry Fuel Factor, dscf/mmBtu (see formula F-7, F-7a, or prorating using Formula F-8)
- K = Constant, 2.59E-9 (lb-mol/(dscf ppmvd))
- MW = Molecular Wt (SO₂ 64 lb/lb-mol, NO₂ 46 lb/lb-mol, CO 28 lb/lb-mol, NH₃ 17 lb/lb-mol)

NOTE: The default values for GCV, F-Factor and Fc-Factor used in calculations are:

Gas

- GCV = 1100 Btu/scf
- F-Factor = 8710 dscf/mmBtu
- Fc-Factor = 1040 dscf/mmBtu
- Fuel Density = ~~0.04490~~ 0.042 lb/dscf

Dry Fuel

- F-Factor = 10,000 dscf/mmBtu
- Fc-Factor (for CO₂)= 1920 dscf/mmBtu

Mark Boucher
Corporate EHS Manager
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MBoucher@greenleaf-power.com



Please consider the environment before printing this e-mail.

From: Chew, Andrew <Chew.Andrew@epa.gov>
Sent: Tuesday, February 15, 2022 2:01 PM
To: Mark Boucher <mboucher@greenleaf-power.com>
Cc: Kevin Lawrence <klawrence@greenleaf-power.com>; Lapada, Yveze Nikita <Lapada.YvezeNikita@epa.gov>;

Mitchell Martin <mmartin@greenleaf-power.com>

Subject: RE: Mark Boucher's contact info

Hello Mark,

Thanks for getting back to me so quickly. To answer your questions, they are yes and yes. I want to be able to follow the actual data inputs used to arrive at the 9 actual data results (as shown in my last email). Hope this clarifies.

- Andrew

Andrew Chew, P.E.

T: (415) 947-4197 | F: (415) 947-3519 | chew.andrew@epa.gov

U.S. EPA, Region 9, Enforcement & Compliance Assurance Division (ECAD), Air Section (ENF-2-1) | 75 Hawthorne St.,
San Francisco, CA 94105

From: Mark Boucher <mboucher@greenleaf-power.com>

Sent: Tuesday, February 15, 2022 9:25 AM

To: Chew, Andrew <Chew.Andrew@epa.gov>

Cc: Kevin Lawrence <klawrence@greenleaf-power.com>; Lapada, Yvezee Nikita <Lapada.YvezeeNikita@epa.gov>;
Mitchell Martin <mmartin@greenleaf-power.com>

Subject: RE: Mark Boucher's contact info

Good morning Andrew,

Thank you for your follow up question.

What we previously sent was the stack testing calculations from our stack test reports.

I understand you would like to view the DAHS system calculations which convert ppm to lb/mmBtu. Is this correct?

A similar DAHS calculation from another facility is attached. Just to verify, is this the information you would like to see for NOx, SO2 and CO from the DVP DAHS?

If so, we will contact our DAHS vendor to expose the embedded calculations for us. We will reach out to them this week.

Thanks.

Regards Mark

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Please consider the environment before printing this e-mail.

From: Chew, Andrew <Chew.Andrew@epa.gov>

Sent: Monday, February 14, 2022 4:42 PM

To: Mark Boucher <mboucher@greenleaf-power.com>

Cc: Kevin Lawrence <klawrence@greenleaf-power.com>; Lapada, Yvezee Nikita <Lapada.YvezeeNikita@epa.gov>;

Mitchell Martin <mmartin@greenleaf-power.com>

Subject: RE: Mark Boucher's contact info

Mark,

Hope everyone's doing well. I still have some follow-up questions after I saw the sample calculations in the pdf titled 5. Stack Test Calculation Examples. I was specifically looking for the calculations/equations used to arrive at the lb/mmBtu numbers. Using the following data in the information response as examples, what were the concentrations used as inputs? And their equations to arrive at the lb/mmBtu results? I think you pointed out that the fuel factor, Fd, used was 9,240 dscf/mmBtu. Other Method 19 conversion factors were CFppm→lb/dscfNOx = 1.194E-7 lbNOx/dscf / ppm and CFppm→lb/dscfSO2 = 1.66E-7 lbSO2/dscf / ppm. What was the conversion factor used for CO, i.e., CFppm→lb/dscfCO? Thank you for looking into this, and please let me know if you have any questions.

Boiler 1 Daily Emissions Report

1/1/2017

Hour	NOx lb/mmBtu	SO2 lb/mmBtu	CO lb/mmBtu
0	0.097	0.027	0.012
1	0.095	0.029	0.012
2	0.096	0.031	0.012

- Andrew

Andrew Chew, P.E.

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From: Mark Boucher <mboucher@greenleaf-power.com>

Sent: Friday, December 10, 2021 8:09 AM

To: Chew, Andrew <Chew.Andrew@epa.gov>

Cc: Kevin Lawrence <klawrence@greenleaf-power.com>; Lapada, Yvezee Nikita <Lapada.YvezeeNikita@epa.gov>;
kdudash@aqmd.gov; jaceves@cabazonindians-nsn.gov; Mitchell Martin <mmartin@greenleaf-power.com>

Subject: RE: Mark Boucher's contact info

Good Morning Andrew,

Attached is the response letter to your questions raised during the onsite inspection.

The enclosures detailed in the letter have been sent through the EPA file request link you previously supplied.

Please verify receipt of these files. Let us know if you require additional information. Thanks

Best Regards Mark

Mark Boucher
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Please consider the environment before printing this e-mail.

From: Chew, Andrew <Chew.Andrew@epa.gov>
Sent: Tuesday, December 7, 2021 2:16 PM
To: Mark Boucher <mboucher@greenleaf-power.com>
Cc: Kevin Lawrence <klawrence@greenleaf-power.com>; Lapada, Yvezee Nikita <Lapada.YvezeeNikita@epa.gov>;
kdudash@aqmd.gov; jaceves@cabazonindians-nsn.gov; Mitchell Martin <mmartin@greenleaf-power.com>
Subject: RE: Mark Boucher's contact info

Thanks for asking, Mark. The link to our agency's file sharing service was sent to you yesterday in a separate email. If you have any questions, please let me know.

- Andrew

Andrew Chew, P.E.
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From: Mark Boucher <mboucher@greenleaf-power.com>
Sent: Monday, December 6, 2021 12:45 PM
To: Chew, Andrew <Chew.Andrew@epa.gov>
Cc: Kevin Lawrence <klawrence@greenleaf-power.com>; Lapada, Yvezee Nikita <Lapada.YvezeeNikita@epa.gov>;
kdudash@aqmd.gov; jaceves@cabazonindians-nsn.gov; Mitchell Martin <mmartin@greenleaf-power.com>
Subject: RE: Mark Boucher's contact info

Good afternoon, Andrew

We will have the follow up information and response to your questions back to you this week.

Is there a file sharing service the Agency would like used to populate the files, or would a drop box system suffice?

Thanks

Best Regards Mark

Mark Boucher
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(860) 931-1189 Mobile
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Please consider the environment before printing this e-mail.

From: Chew, Andrew <Chew.Andrew@epa.gov>
Sent: Monday, December 6, 2021 2:05 PM
To: Mark Boucher <mboucher@greenleaf-power.com>
Cc: Kevin Lawrence <klawrence@greenleaf-power.com>; Lapada, Yvezee Nikita <Lapada.YvezeeNikita@epa.gov>;
kdudash@aqmd.gov; jaceves@cabazonindians-nsn.gov; Mitchell Martin <mmartin@greenleaf-power.com>
Subject: RE: Mark Boucher's contact info

Mark,

Do you have a status update on the follow-up information that we requested on 11/18? Please let me know if you have any questions. Thank you.

- Andrew

Andrew Chew, P.E.

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From: Mark Boucher <mboucher@greenleaf-power.com>

Sent: Thursday, November 18, 2021 8:50 AM

To: Chew, Andrew <Chew.Andrew@epa.gov>

Cc: Kevin Lawrence <klawrence@greenleaf-power.com>; Lapada, Yvezee Nikita <Lapada.YvezeeNikita@epa.gov>;
kdudash@aqmd.gov; jaceves@cabazonindians-nsn.gov; Mitchell Martin <mmartin@greenleaf-power.com>

Subject: RE: Mark Boucher's contact info

Hello Andrew,

Yes the contact information you identified is correct.

Thanks Mark

Mark Boucher

Corporate EHS Manager

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MBoucher@greenleaf-power.com



Please consider the environment before printing this e-mail.

From: Chew, Andrew <Chew.Andrew@epa.gov>

Sent: Thursday, November 18, 2021 11:48 AM

To: Mark Boucher <mboucher@greenleaf-power.com>

Cc: Kevin Lawrence <klawrence@greenleaf-power.com>; Lapada, Yvezee Nikita <Lapada.YvezeeNikita@epa.gov>;
kdudash@aqmd.gov; jaceves@cabazonindians-nsn.gov

Subject: Mark Boucher's contact info

Good morning, Mark. It was nice meeting you yesterday by phone. Can you confirm with me that the following information is still current? Thank you again, and we'll talk again in a bit.

Mark Boucher

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- Andrew

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